

IN THE CLAIMS:

1.(amended) Packer apparatus for packing cartons into boxes, and comprising;

at least one carton transfer location where cartons accumulate to form a carton group of predetermined size for transfer;

A1 a box packing location adjacent said transfer location for supporting a box adapted to receive a said carton group in a single layer in said box;

clamp bars moveable towards and away from one another for gripping said carton group of cartons at said transfer location;

10 a transfer carriage for moving said clamp bars and said gripped carton group from said transfer location to said box packing location; and;

a carton release mechanism operable to cause said clamp bars to release said carton group and thereby depositing said carton group as a single layer in said box at said box packing location.

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5. (amended) Packer apparatus for packing cartons into boxes as claimed in claim 4 wherein said transfer carriage includes a gripper support, said support being

moveable from one said carton transfer location to said box packing location, and back again ,and to said other transfer location , and back again .

6. (amended) Packer apparatus for packing cartons into boxes as claimed in claim 5 wherein there are two pairs of said clamp bars, and wherein said gripper support supports both said pairs of clamp bars, and wherein movement of said gripper support moves one said pair of clamp bars from a said transfer location to said box packing station, while said other pair of clamp bars is moved simultaneously from said box packing location to said other of said transfer locations.

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A2 7. (amended) Packer apparatus for packing cartons into boxes as claimed in claim 6 wherein said transfer carriage is operable to procure intermittent start stop operation of said gripper support, thereby causing one said pair of clamp bars to dwell at a said transfer location while the other said pair of clamp bars dwells at said packing location.

8. (amended) Packer apparatus for packing cartons into boxes as claimed in claim 7 including a raising and lowering mechanism for respective said pairs of clamp bars operable to raise and lower their respective said pairs of clamp bars , wherein said raising and said lowering take place when said gripper support is stopped.

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9. (amended) Packer apparatus for packing cartons into boxes as claimed in

claim 8 wherein both said pairs of clamp bars are lowered and raised simultaneously.

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10. (amended) Carton gripper apparatus for gripping groups of cartons for packing said groups into boxes, and comprising;
a gripper body member;
a plurality of slide rods supported on said gripper body member;
a plurality of pairs of clamp bars slideable along said slide rods; and,
a movement drive operable to move said pairs of clamp bars towards one another into a gripping position and away from one another into a releasing position.

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16. (amended) A method of packing cartons into boxes, and comprising the steps of; accumulating cartons at at least one carton transfer location, and assembling a predetermined number of said cartons into a carton group;
moving an open empty box to a box packing location adjacent said transfer location;
gripping said carton group at said transfer location by means of moveable clamp bars;
moving said gripped carton group from said transfer location to said packing

location; and;

depositing said carton group in said box at said packing location.

17. (amended) The method of packing cartons into boxes as claimed in claim 16, including accumulating cartons into said carton groups at two said transfer locations, and wherein said box is moved to said packing location positioned between said two carton transfer locations.

18 (amended) The method of packing cartons into boxes as claimed in claim 17 wherein said cartons have sealed seams at their upper ends and including the step of gripping a said group of cartons between pairs of clamp bars by moving said clamp bars towards one another for gripping said cartons along respective said carton seams, and away from one another for releasing said cartons.

19 (amended) The method of packing cartons into boxes as claimed in claim 18 including a gripper support, and including the step of moving said support from one said carton transfer location to said box packing location, and back again, and from said box packing station to said other said transfer location and back again and wherein there are two said pairs of clamp bars, and wherein said gripper support supports both said

pairs of clamp bars, and wherein the step of moving of said gripper support moves one said pair of clamp bars from a said transfer location to said box packing station, while said other pair of clamp bars is moved simultaneously from said box packing

location to said other of said transfer locations.

20. (amended) The method of packing cartons into boxes as claimed in claim 19 including the step of moving said support means to procure intermittent start stop operation, thereby causing one said pair of clamp bars to dwell at a transfer location while the other said pair of clamp bars dwells at said packing location.

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